Listing of All Claims Including Current Amendments

1-19. (cancelled).

20. (currently amended) A method for providing images of a viewed surface to a user, the method comprising:

positioning moving an endoscope in a first viewing position relative to a real surface which provides an endoscope view;

using the endoscope to acquire an image of the real surface from the first viewing position;

providing a virtual surface approximating the topography of the real surface;

mapping the acquired image onto the virtual surface;

establishing a second viewing position relative to the real surface that represents a view different than the position of the endoscope view;

determining position data indicating the difference between the position of the endoscope view and the view from the second viewing position as the endoscope moves;

using the mapped virtual surface and the position data to render an image representing a view of the real surface from the second viewing position; and

providing the rendered image to the user.

21. (currently amended) The method of claim 20, wherein at least the steps of using

the endoscope to acquire an image, mapping the acquired image onto the virtual

surface, and using the mapped virtual surface and the position data to render an image

are repeated when the endoscope is moved ~~from the first viewing position to another~~

~~position~~ relative to the real surface.

22. (previously presented) The method of claim 20, wherein the image is one of a

series of video images.

23. (previously presented) The method of claim 20, wherein the topographical

approximation is based on volumetric scan data.

24. (previously presented) The method of claim 20, wherein the topographical

approximation is based on stereo imaging.

25. (previously presented) The method of claim 20, wherein the second viewing

position represents the position of a user.

26. (previously presented) The method of claim 20, wherein the virtual surface

represents an anatomical object.

27. (previously presented) The method of claim 20, wherein the virtual surface is planar.

28. (currently amended) The method of claim 20, wherein the position of the endoscope is represented by a first viewing set including a scope viewing point, a scope viewing direction, and a scope orientation relative to the ~~actual~~ real surface, and the second position is represented by a second viewing set including a virtual viewing point, a virtual viewing direction, and a virtual orientation corresponding to the second position.

29. (previously presented) The method of claim 20, wherein a virtual viewing point is arranged in a manner generally corresponding to an endoscopic viewing point.

30. (previously presented) The method of claim 20, wherein a virtual viewing point is arranged in a manner generally corresponding to an actual viewing point of a user.

31. (previously presented) The method of claim 20, wherein a virtual viewing direction is directed in a manner generally corresponding to an actual viewing direction of a user.

32. (previously presented) The method of claim 20, wherein a virtual viewing orientation is oriented in a manner generally corresponding to an actual viewing orientation of a user.

33. (previously presented) The method of claim 20, wherein the image is mapped onto the virtual surface according to a mapping that adjusts for distortion.

34. (currently amended) An apparatus for providing images of a viewed surface to a user, comprising:

an endoscope providing an endoscope view that captures an image of a real surface when ~~in a first position~~ moved relative to the real surface;

a processor that creates a virtual surface approximating the topography of the real surface, maps the image acquired by said endoscope onto the virtual surface, determines position data indicating the difference between the ~~first position~~ endoscope view and a view from a second viewing position relative the real surface different than the ~~first position~~ endoscope view as the endoscope moves, and uses the mapped virtual surface and the position data to render an image representing a view of the real surface from the second viewing position; and

a monitor in communication with said computer that displays the rendered image.

35. (previously presented) The apparatus of claim 34, wherein, each time the endoscope acquires a new image, the processor maps the new image onto the virtual surface and uses the mapped virtual surface and the position data to render another image.

36. (currently amended) The method of claim ~~36~~ <u>34</u>, wherein the image is one of a series of video images.

37. (currently amended) A method for providing images of a viewed surface to a user, the method comprising:

inserting an endoscope into a cavity;

moving the endoscope ~~into a first viewing position~~ relative to a real surface <u>which provides an endoscope view</u>;

using the endoscope to acquire an image of the real surface ~~from the first viewing position~~;

providing a virtual surface approximating the topography of the real surface;

mapping the acquired image onto the virtual surface;

establishing a second viewing position representing <u>a view different than the endoscope view</u> ~~the position of a user~~ relative to the real surface;

determining position data indicating the difference between the ~~position of the~~ endoscope <u>view</u> and the <u>view from the second viewing</u> position ~~of the user~~ <u>as the endoscope moves</u>;

using the mapped virtual surface and the position data to render an image representing a view of the real surface from the <u>second viewing</u> position ~~of the user~~; and

providing the rendered image to the user.

38. (currently amended) The method of claim ~~36~~ 37, wherein at least the steps of using

the endoscope to acquire an image, mapping the acquired image onto the virtual

surface, and using the mapped virtual surface and the position data to render an image

are repeated when the endoscope is moved ~~from the first viewing position to another~~

~~position~~ relative to the real surface.

39. (currently amended) The method of claim ~~36~~ 37, wherein the image is one of a

series of video images.